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STATE OF MONTANA

Addendum to

DATA REFERENCE
related to
MONTANA SPEED LAWS

by

Montana Department of Transportation

March 1998

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Executive Summary

Based on the following main factors:

- observed speeds
- higher percentages of out-of-staters with extreme speeds
- traffic crash trends
- great variations in speeds
- public responses
- enforcement aspects
- legal requirements
- national trends

the Ad Hoc Committee reached the following interim recommendations:

The members unanimously support a maximum numerical daytime speed limit, stressing that drivers will at all times need to adjust their speeds to roadway, weather, vehicle, and traffic conditions.

With the present information available, such as speed data, adjacent state practices, accident data, and enforcement perspective, the Committee suggests the following maximum daytime numerical speed limits:

- 75 mph on the Interstate,
- 65 mph on paved rural roads, and
- 55 mph on gravel rural roads.

With these speed limits, the Committee suggests no speed differential between classes of vehicles.

The greatest differences of opinion between members revolved around the daytime versus nighttime speed limit issues. Some members favor posting speed limits based upon observed nighttime speeds, which are about 5 mph lower than the daytime speeds (Data Reference, 1996). The majority of the Committee supports keeping existing nighttime speed limits (65 mph on the Interstate and 55 mph on other roads) due to the visibility limitations of headlights and much higher risks at night. The Committee recommends that the existing nighttime speed limits remain unchanged.

The members unanimously agree that the basic rule speed limit is a universal speed law enacted in all traffic codes and absolutely has to remain as fundamental speed law.

Section 61-8-303 of the Montana Code Annotated states,

> Speed restrictions--basic rule. (1) A person operating or driving a vehicle of any character on a public highway of this state shall drive the vehicle in a careful and prudent manner and at a rate of speed not greater than is reasonable and proper under the conditions existing at the point of operation, taking into account the amount

> and character of traffic, condition of brakes, weight of vehicle, grade and width of highway, condition of surface, and freedom of obstruction to the view ahead. The person operating or driving the vehicle shall drive the vehicle so as not to unduly or unreasonable endanger the life, limb, property, or other rights of a person entitled to the use of the street or highway.

This statute allows officers and patrolmen to take appropriate enforcement action.

Because you are dealing with a multitude of factors (not just a fatality count), professional and public views will differ, and a plethora of bills could be introduced and debated. The Committee attempted to provide reasonable statutory numerical speed limits based on observed Montana travel speeds, accident data, public conversations and phone calls, inputs from various organizations, and other factors. The Committee recommends that several organizations such as AAA, AARP, Montana Motor Carrier Association, and others involved in transportation issues be kept abreast of the available data and suggested speed limits.

The Committee will continue to collect speed data through the spring and summer of 1998. With the speed data and accident statistics, the Committee proposes to reconvene in the late summer of 1998 to review these recommendations and refine the data presentation.

In conclusion, the Committee unanimously supports maximum numerical speed limits for three classes of roadways—Interstate, paved rural roads, and gravel rural roads—in addition to the basic rule.

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1. Introduction

With a 1997 increase in fatalities on Montana highways, Marvin Dye, Director of the Department of Transportation, requested that the Ad Hoc Committee gather and review the data related to the "basic rule" speed limit in Montana and formulate some recommendations with supporting data. The Committee members are:

William R. Cloud, Chief, Data and Statistics Bureau
Donald P. Dusek, P.E., Traffic Engineer
Craig L. Genzlinger, Design and Safety Engineer
  Federal Highway Administration
Albert E. Goke, Chief, Traffic Safety Bureau
Colonel Craig Reap, Chief Administrator, Montana Highway Patrol
Pierre A. Jomini, P.E., Safety Management Engineer, Chairman

Reviewing the many facets of speed regulations, the Committee recognizes that setting statutory maximum speed limits is a complex issue as illustrated in Figure 1. Indeed, it involves many more aspects than a count of traffic fatalities. Speed data, enforcement characteristics, human factors, public attitudes and opinions, and prosecutors' and judges' viewpoints are some of the factors to consider.

This addendum will summarize data and provide comments regarding the following issues:

- Statewide Growth (Section 2)
- Speeds (Section 3)
- Traffic Crashes (Section 4)
- Environmental Information (Section 5)
- Experience from Neighboring States (Section 6)
- General Comments (Section 7)

The Committee's interim recommendations are provided in Section 8.

ISSUES WITH SPEED REGULATION

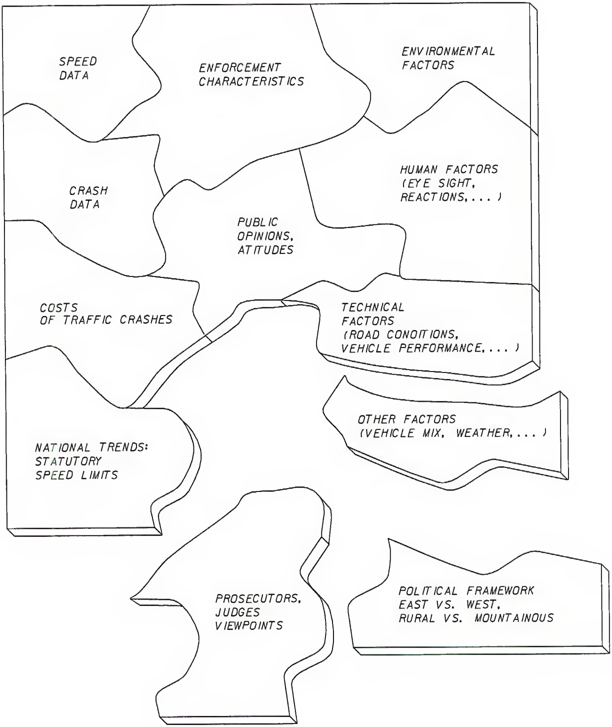
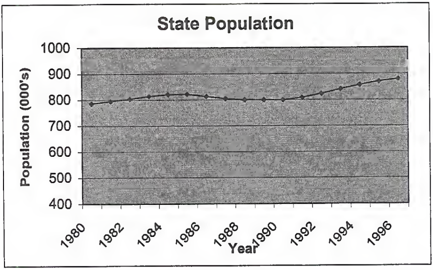

SPEED DATA
ENFORCEMENT CHARACTERISTICS
ENVIRONMENTAL FACTORS
CRASH DATA
HUMAN FACTORS (EYE SIGHT, REACTIONS, . . .)
PUBLIC OPINIONS, ATITUDES
COSTS OF TRAFFIC CRASHES
TECHNICAL FACTORS (ROAD CONDITIONS, VEHICLE PERFORMANCE, . . .)
OTHER FACTORS (VEHICLE MIX, WEATHER, . . .)
NATIONAL TRENDS: STATUTORY SPEED LIMITS
PROSECUTORS, JUDGES VIEWPOINTS
POLITICAL FRAMEWORK EAST VS. WEST, RURAL VS. MOUNTAINOUS

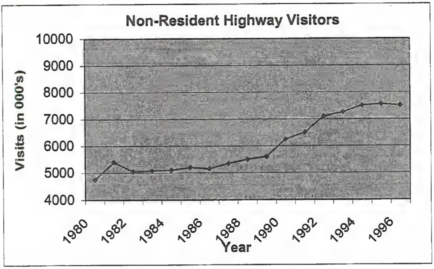
FIGURE 1

2. Statewide Growth

Figure 2 shows the estimated statewide annual vehicle miles of travel (source: Transportation Planning), the estimated yearly population for the state of Montana (source: Department of Commerce), and the estimated yearly non-resident visits to Montana (source: Institute for Tourism and Recreation Research, University of Montana).

According to these data, for the period 1980-1996 the state of Montana has seen less than one percent yearly growth in population (the annual growth rate was 1.3 percent over the last five years) and a 2.5 percent yearly growth in total vehicle miles traveled.


State Population
Population (000's)
1000
900
800
700
600
500
400
1980
1982
1984
1986
1988
1990
1992
1994
1996
Year


Non-Resident Highway Visitors
Visits (in 000's)
10000
9000
8000
7000
6000
5000
4000
1980
1982
1984
1986
1988
1990
1992
1994
1996
Year

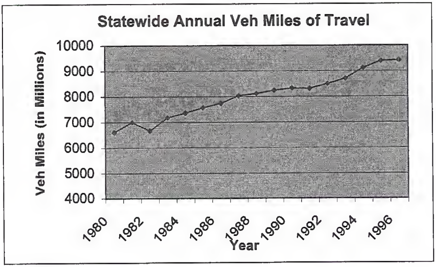

Statewide Annual Veh Miles of Travel
Veh Miles (in Millions)
10000
9000
8000
7000
6000
5000
4000
1980
1982
1984
1986
1988
1990
1992
1994
1996
Year

FIGURE 2

3. Speeds

3.1 Speed Data

Because the Montana Department of Transportation has a speed monitoring program, which was federally mandated to monitor the 55 mph speed limits, some historic speed trends are provided in Figures 3 and 4. Figures 5 through 8 give the latest day/night speed data for the Rural Interstate and Rural Primary system. The speed distributions for 1996 and 1997 are very similar, confirming the raise in the 85 percentile speeds and a significant drop in the percentage of drivers in the pace, compared to 1995 with a numerical statutory speed limit of 65/55 mph.

As reported in December 1996,

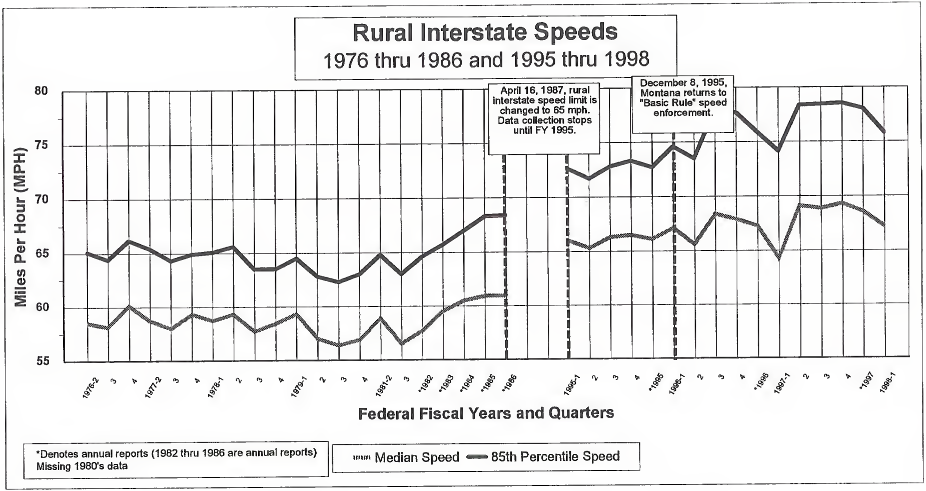
- during the summer of 1996, the 85 percentile speeds on the Interstate and Primary roadway systems have increased by about five miles per hour, compared to 1995 (up to about 78 mph on the Interstate and 72 mph on the Primary system); and
- between 1995 and 1996, the percentage of drivers in the pace has dropped by about 15 percent on the Interstate (down to 41 percent) and about five percent on the Primary system (down to 47 percent).

Figures 9 and 10 show a historic perspective of national Interstate speed distribution in 1973-1974, and Montana rural Interstate speed distribution in 1995-1996.

3.2 Setting of Speed Limits

State law 61-8-309 provides the guidelines for the establishment of special speed zones. The Transportation Commission approves special speed zones, but the law specifies that the Commission is not authorized to set a Statewide speed limit. State law 61-8-310 defines when local authorities may and shall alter limits. In all instances, special speed zones are determined on the basis of an engineering and traffic investigation. The Department of Transportation shall adopt a manual for a uniform system of traffic control devices. This uniform system shall correlate with and, so far as possible, conform to the *Manual on Uniform Traffic Control Devices* (MUTCD) as amended (State law 61-8-202). There are no guidelines as to the setting of statutory maximum speed limits.

Most citizens will behave in a reasonable manner as they go about their daily activities. As the urban development becomes more dense and as the conflicts increase, drivers slow down. Similarly, as a mountainous road becomes steeper with sharper curves, drivers slow down. Throughout the United States, the public has accepted statutory maximum speed limits for residential areas, business districts, and school zones. All the states except Montana have also adopted statutory maximum speed limits on their rural roadways.



Rural Interstate Speeds
1976 thru 1986 and 1995 thru 1998

April 16, 1987, rural interstate speed limit is changed to 65 mph. Data collection stops until FY 1995.

December 8, 1995, Montana returns to "Basic Rule" speed enforcement.

*Denotes annual reports (1982 thru 1986 are annual reports)
Missing 1980's data

FIGURE 3

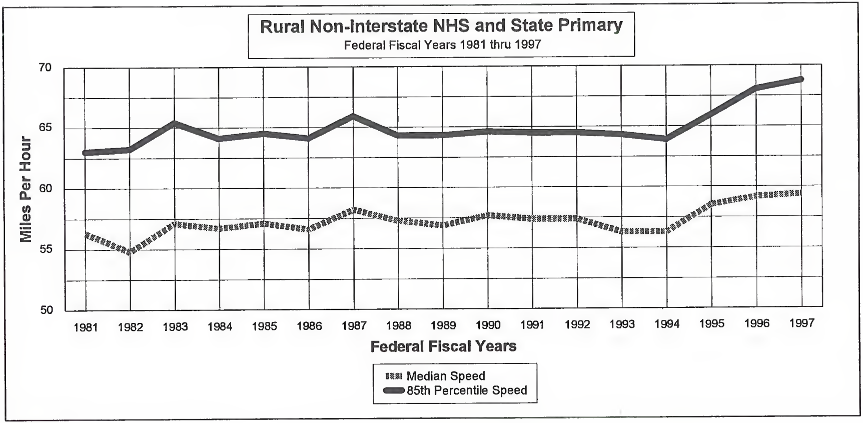
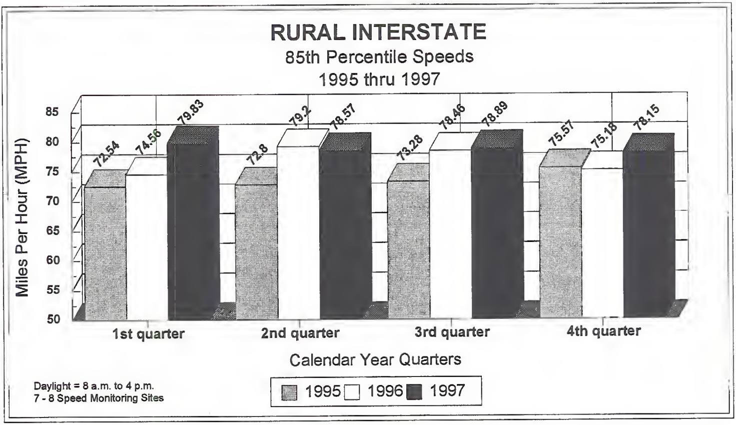

Rural Non-Interstate NHS and State Primary
Federal Fiscal Years 1981 thru 1997
Miles Per Hour
70
65
60
55
50
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Federal Fiscal Years
Median Speed
85th Percentile Speed

FIGURE 4

DAYLIGHT SPEEDS



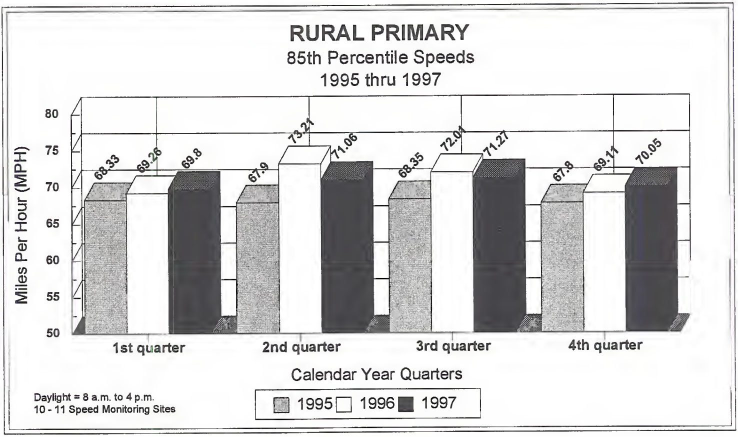
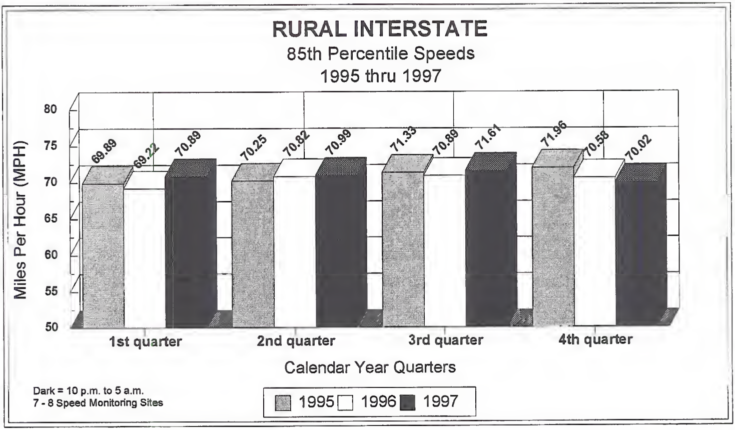


FIGURE 5

DARK/NIGHTIME SPEEDS



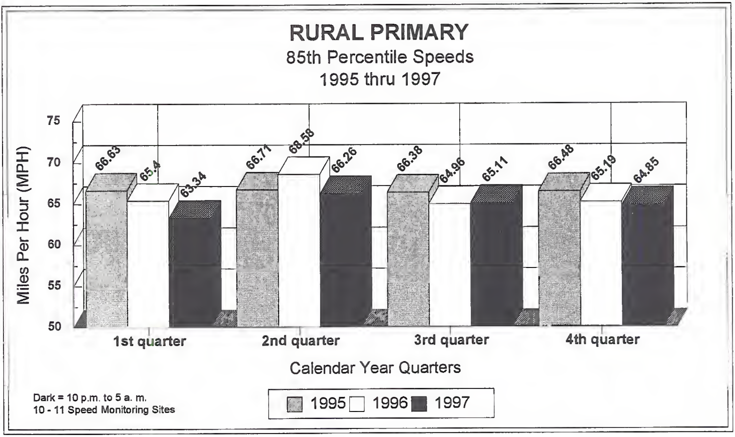


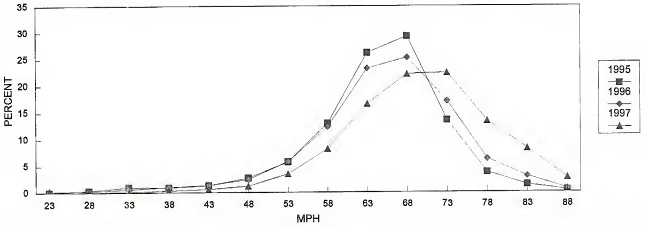
FIGURE 6

Adhocsp3.123

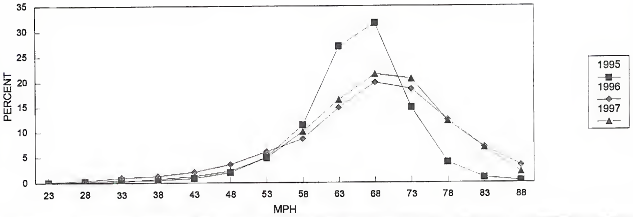
INTERSTATE

VEHICLE DISTRIBUTION
1995,1996,1997
DAYTIME

JAN,FEB,MAR



APR,MAY,JUN



JUL,AUG,SEP

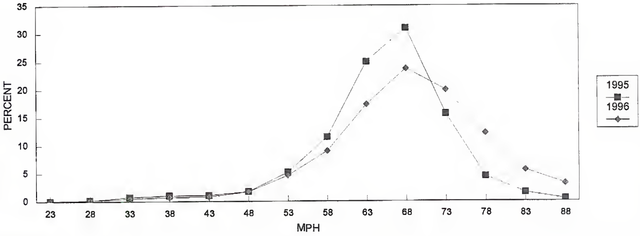
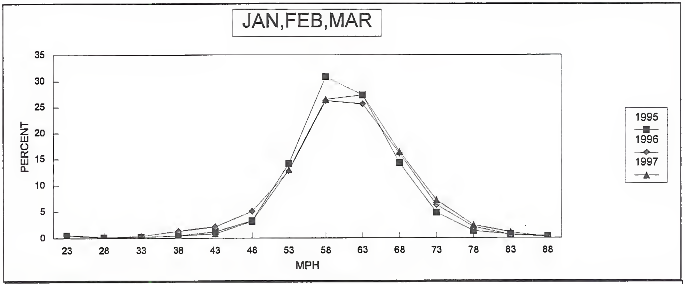
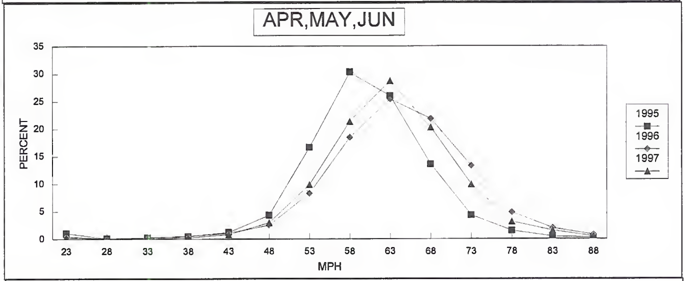


FIGURE 7

PRIMARY

VEHICLE DISTRIBUTION
1995,1996,1997
DAYTIME





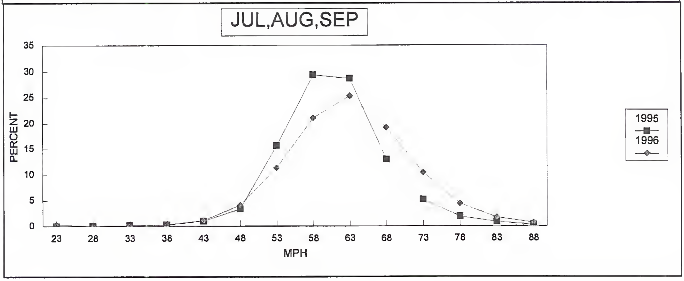


FIGURE 8

Laws are established for the protection of the public. Risks must be assessed. The Roman politician Cicero said it best: "Public safety is the ultimate law." However, laws cannot be effectively enforced without the consent and voluntary compliance of the public. Police agencies rely on reasonable and well recognized speed laws to control the unreasonable violator whose behavior is clearly out of line with the normal flow of traffic. More grave violations (e.g., DUI) are often discovered through the tip off of speeding.

3.3 Factors with Speed Considerations

The following points were made during the deliberations on the speed limit issue:

- During the summers of 1996 and 1997, the 85th percentile speeds on rural Interstate and rural arterial roadways increased by about 5 mph compared to 1995 (up to 78 mph on the rural Interstates and 72 mph on the rural arterial roadways).
- The Montana Highway Patrol survey of 1996 found that 60 percent of the speeders observed at speeds above 85 mph were from out of state, 75 percent at speeds above 90 mph were from out of state.
- A lot of uncertainty and confusion still exists regarding the "basic rule" speed limit in Montana, particularly among tourists.
- Articles and conversations still refer to the lack of a speed limit in Montana.
- The higher the speeds, the more severe the injuries. According to the National Highway Traffic Safety Administration, chances of death or serious injury at impact double for every 10 mph over 50 mph a vehicle travels (NHTSA, Fact Sheet, December 1995).
- The pace is a 10 mph spread over which the highest percentage of drivers travel. Between 1995 and 1996, the percentage of drivers in the pace decreased by about 15 percent on the rural Interstates (down to 41 percent) and about 5 percent on the rural arterial roadways (down to 47 percent).
- The greater the variations from the mean speeds, the higher the accident involvement rates. See Figure 9.
- The automobiles, their safety features, and the roadside safety elements are not designed and tested at the high speeds seen on Montana highways.
- A recent newspaper poll shows two-thirds of Montanans in favor of a statutory maximum speed limit.
- Outside sources and Ad Hoc team members report less comfort on the roads with the higher speeds, and greater speed differentials between vehicles. On higher volume corridors, more platooning is observed with increased passing maneuvers (no data documentation).
- The decision makers have to assess risks. For example, at night there are definite sight limitations with headlights. Statutory speed limits can help reduce these risks; often these risks are not perceived by the drivers.
- Increased driver aggression and more confrontation with enforcement personnel are reported by highway patrolmen.
- Travel times are reduced at the higher speed.
- Increased fuel consumption and increased pollutants are emitted at higher speeds.

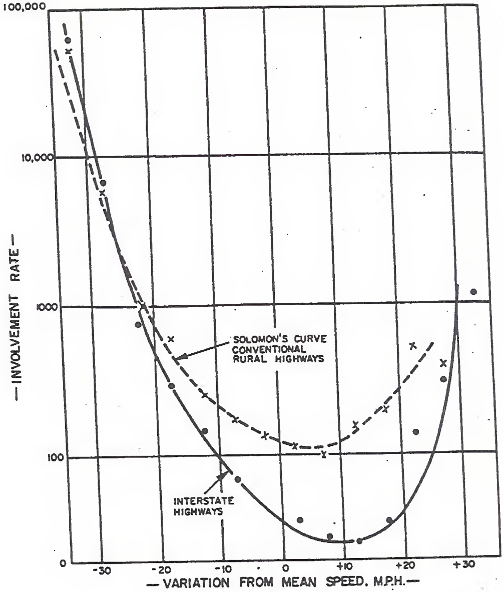


Figure 9 Accident involvement rate by variation from mean speed on study units.

SOURCE: "Ramifications of the 55 mph Speed Limit," Committee 4M-2, Institute of Transportation Engineers, Arlington, VA, March 1977.

1973-74 National Interstate Speed Distribution

From the report "55: A Decade of Experience" (Transportation Research Board, Special Report 204, 1984), Figure 10 shows the trend in speed distributions on Interstate highways for 1973 and 1974. The data are national figures from the U.S. Department of Transportation *Highway Statistics*. In early 1974, a maximum speed limit of 55 mph was imposed on the nation's highways following the OPEC oil embargo.

These two speed distributions show between 1973 and 1974:

1. a significant increase in the percentage of drivers in the pace (69% v. 50%);
2. a reduction in the 85th percentile and the median speed (from about 70 mph to 65 mph); and
3. more uniform speeds.

The National Committee for the Study of the Benefits and Costs of the 55 mph national maximum speed limit concluded as follows:

> In the decade since the Arab oil embargo, the 55 mph speed limit, along with improved vehicles, highways, and other safety policies, has contributed to a safer driving environment. The reduced speeds and reduced speed variance of 1974 appear to be key factors in the dramatic decline in highway fatalities in 1974. Nationwide statistics and more detailed analyses of state experience indicate that 3,000 to 5,000 lives were saved annually in the early years of the 55 mph speed limit.

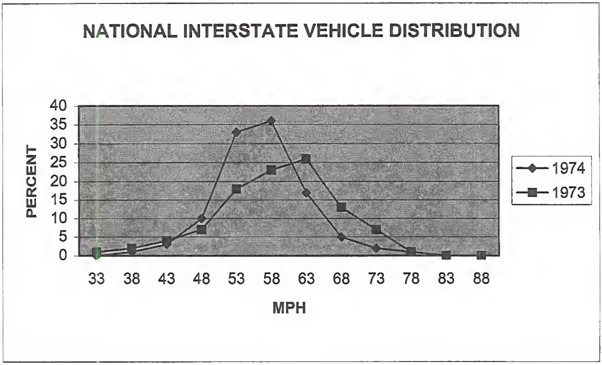


FIGURE 10

1995-1996 Montana Interstate Speed Distribution

Figure 11 illustrates the summer/fall speed distributions of 1995 and 1996 on Montana rural Interstates. A reverse of the 1973-74 events are observed as noted below:

1. a drastic decrease in the percentage of drivers in the pace (56% to 41%).
2. an increase in the 85th percentile speed (73 mph to 78 mph).
3. a wide spread of speeds with a trend toward higher speeds.

In 1996, no significant increase in crashes was observed. However, in 1997 there is a worrisome increase in fatalities and fatal crashes.

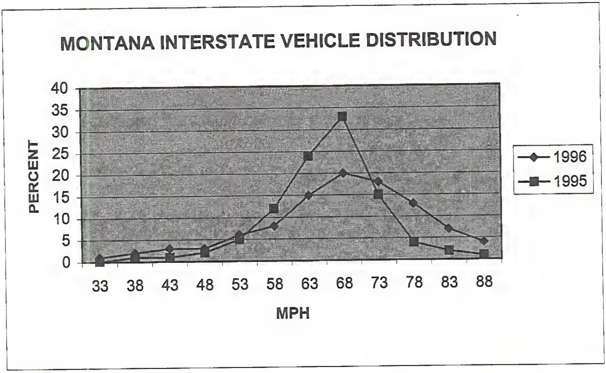


FIGURE 11

4. Traffic Crashes

All too often, speed limit issues are related only to the number of traffic fatalities because several agencies and the news media keep track of these data. Several factors make this analysis very complex, such as the following:

The state of Montana had from 163 to 198 rural fatal crashes between 1987 and 1996. These numbers vary from year to year. In 1997, 223 fatal crashes and 265 fatalities were reported in Montana.

Between 1980 and 1989, Montana saw a trend of declining highway fatality rates (number of fatalities per 100 million vehicle miles) from 4.9 to 2.2. The fatality rate leveled off between 1990 and 1996, varying between 2.1 and 2.4. In 1997, the fatality rate increased dramatically. With a 1997 projected fatality rate of 2.8, the State of Montana will have one of the highest fatality rates in the nation. Figure 12 shows the fatality rates for the State of Montana compared to the U.S. for the period 1970 through 1996.

The number of recorded crashes and persons injured are documented for the period 1970 through 1997 in Figure 13. Since the mid eighties, the number of crashes and persons injured have been increasing: between 1985 and 1995 (9 years), the number of rural crashes recorded by the Montana Highway Patrol increased 3.5 percent annually. In 1996, there was a 20 percent increase in rural accidents compared to 1995; however, severe winter conditions contributed largely to this increase.

The spring and summer quarters (winter and fall quarters vary because of seasonal icy/snowy road conditions) of 1993 through 1997 yield the following results regarding daytime rural fatal crashes:

		1993	1994	1995	1996	1997
Number of Fatal Crashes (Rural Interstate Daylight)	Spring	5	7	5	4	5
	Summer	5	8	7	14	17
Number of Fatal Crashes (Rural Primary Daylight)	Spring	9	14	11	11	13
	Summer	9	20	19	22	26
Number of Fatal Crashes (All Rural Roads, Daylight)	Spring	18	38	22	23	32
	Summer	37	40	40	46	50
Total Rural Daylight Crashes	Spring	529	552	586	596	643
	Summer	1,639	1,704	1,867	1,963	1,987

The numbers are small, but the trends show an ***increase in daytime rural fatal crashes*** for the 1993-1997 spring/summer period.

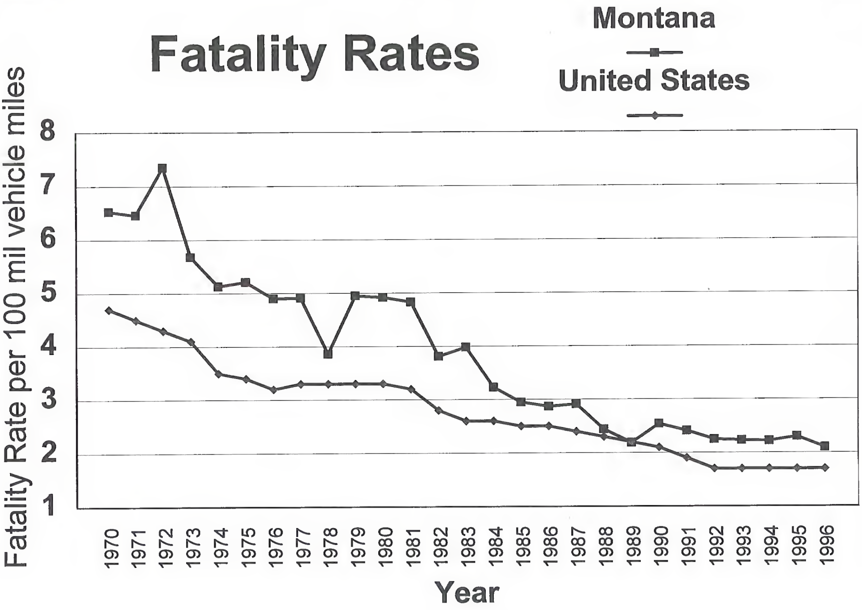

Fatality Rates
Montana
United States
Fatality Rate per 100 mil vehicle miles
8
7
6
5
4
3
2
1
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
Year

FIGURE 12

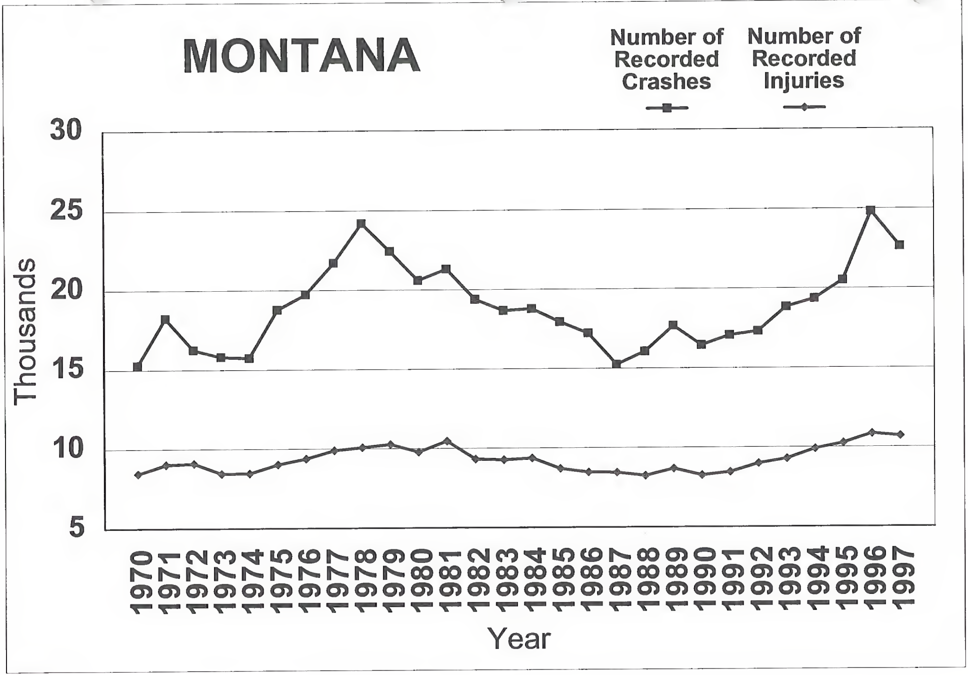

MONTANA
Number of Recorded Crashes
Number of Recorded Injuries
Thousands
30
25
20
15
10
5
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Year

FIGURE 13

The records also show that daylight rural crashes are increasing for the 1993 through 1997 period.

Figures 14 through 29 illustrate the number of traffic crashes by quarters (to account for seasonal changes) from 1993 through 1997.

In conclusion:

1. Based on the 1973-1974 data, a nationwide reduction of 3,000 to 5,000 traffic fatalities occurred by imposing a 55 mph speed limit ("55: A Decade of Experience," Transportation Research Board, Special Report 204, 1984). In Montana between 1971 and 1973, there were 1046 traffic fatalities; between 1975 and 1977, there were 918 fatalities.

2. The 2,336 fatalities that occurred in 1990 on rural Interstates in those 38 states that increased their speed limits from 55 mph to 65 mph in 1987 is 30 percent greater than might have been expected based on historical trends (Effects of the 65 mph Speed Limit Through 1990 - Report to Congress, National Highway Traffic Safety Administration, 1992). In Montana no significant changes in rural fatalities were observed. This was due in part to the fact that from 1982 to 1986, rural speeds in Montana were steadily increasing, so the official speed limit increase in 1987 had little effect on the average speeds in the state. Between 1984 and 1986, there were 97 fatal accidents on Montana rural Interstates and 102 between 1988 and 1990.

3. Based on traffic growth trends in Montana, the total number of crashes will continue to increase.

4. Based on Montana's experience of increasing daytime rural fatalities and crashes, one starts to see a trend of increasing crashes and fatalities in the nineties.

Note that each state will have variations from year to year, but, overall, statistics show that aggregating the states that have increased their speed limits has increased fatalities.

On the basis of these various factors, one can conclude that there is some correlation between higher speeds and crashes and fatalities.

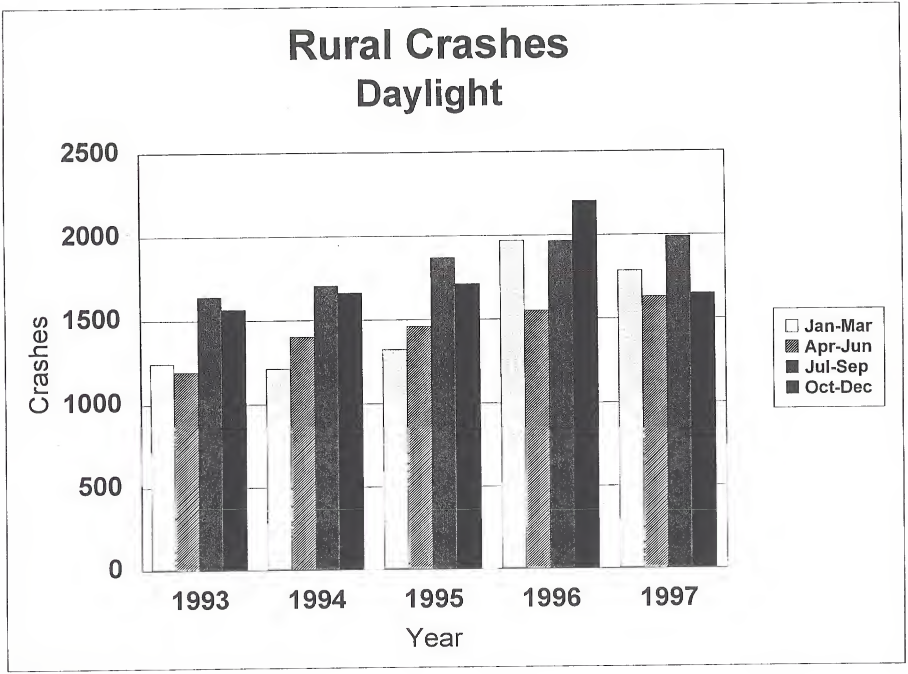

Rural Crashes
Daylight
2500
2000
1500
1000
500
0
Crashes
1993
1994
1995
1996
1997
Year
☐ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 14

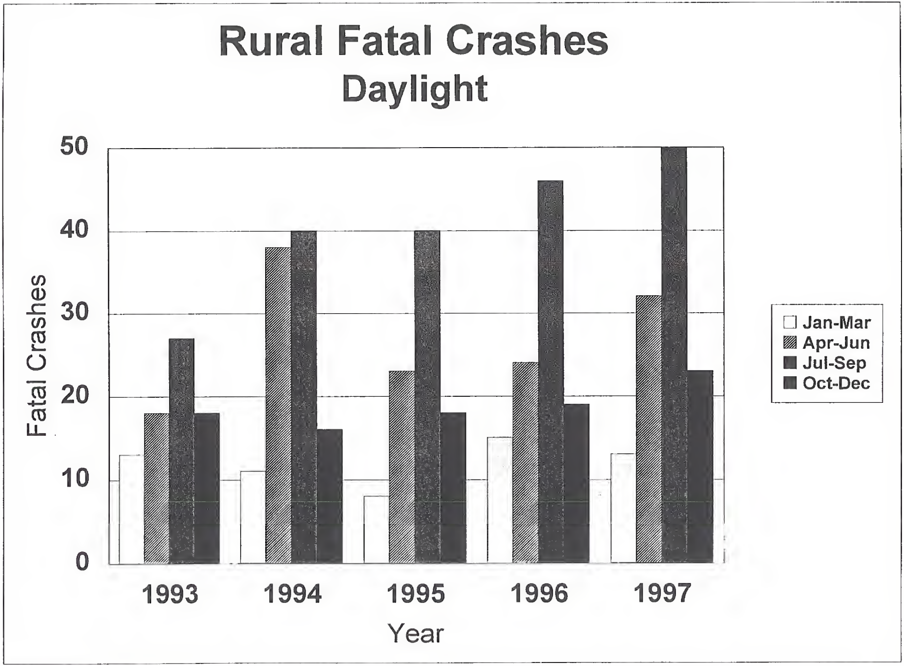

Rural Fatal Crashes
Daylight

FIGURE 15

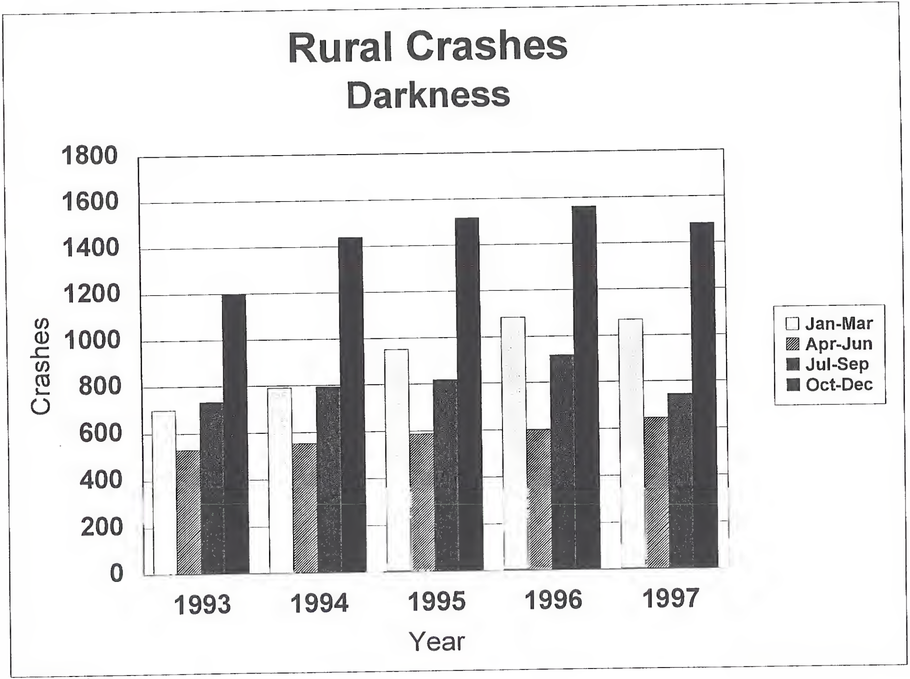

Rural Crashes
Darkness
1800
1600
1400
1200
1000
800
600
400
200
0
Crashes
1993
1994
1995
1996
1997
Year
☐ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 16

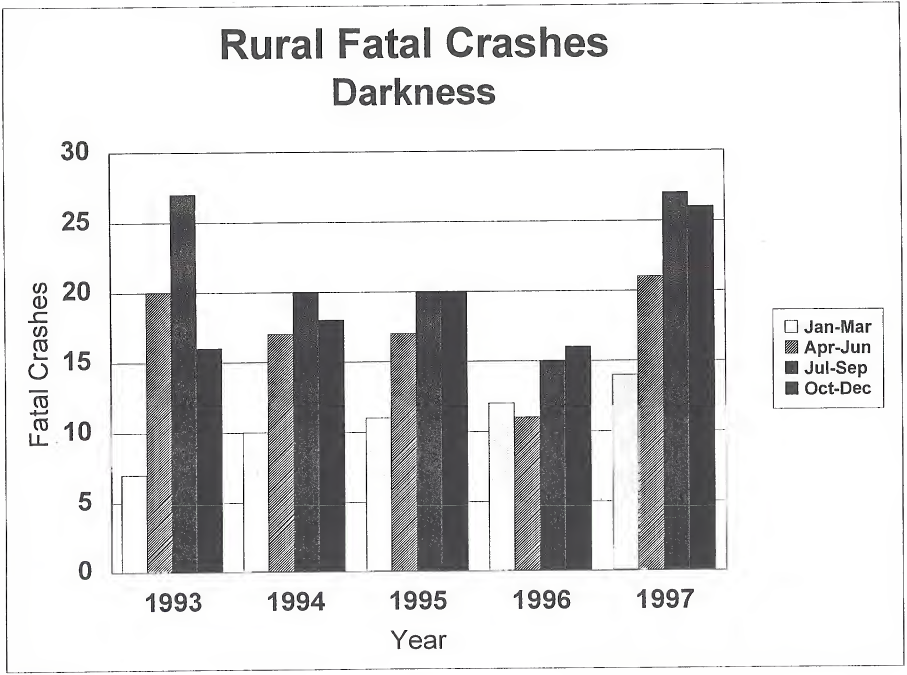

Rural Fatal Crashes
Darkness
30
25
20
15
10
5
0
Fatal Crashes
1993
1994
1995
1996
1997
Year
☐ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 17

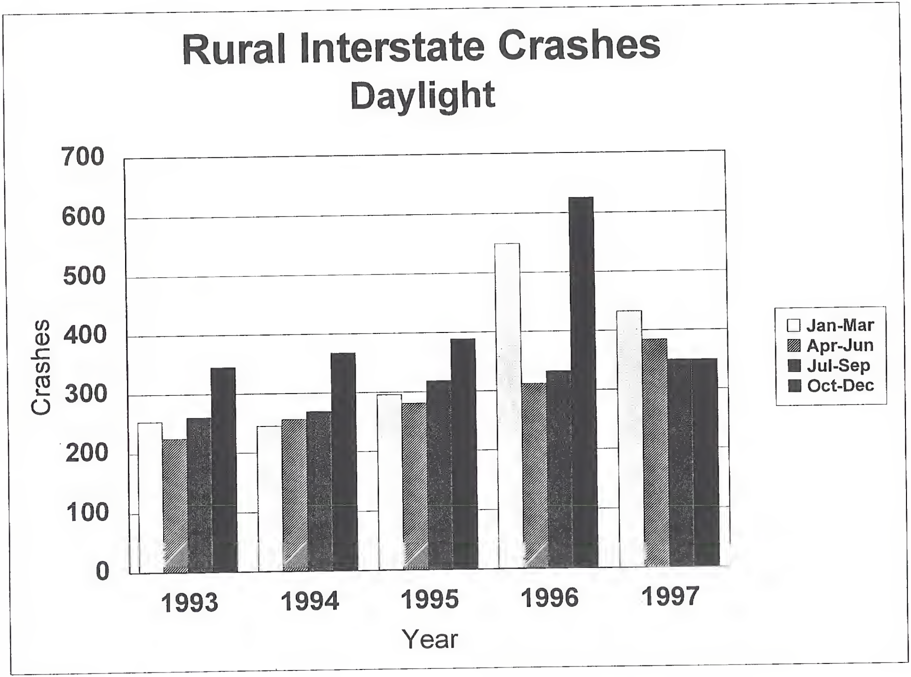

Rural Interstate Crashes
Daylight
700
600
500
400
300
200
100
0
Crashes
1993
1994
1995
1996
1997
Year
☐ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 18

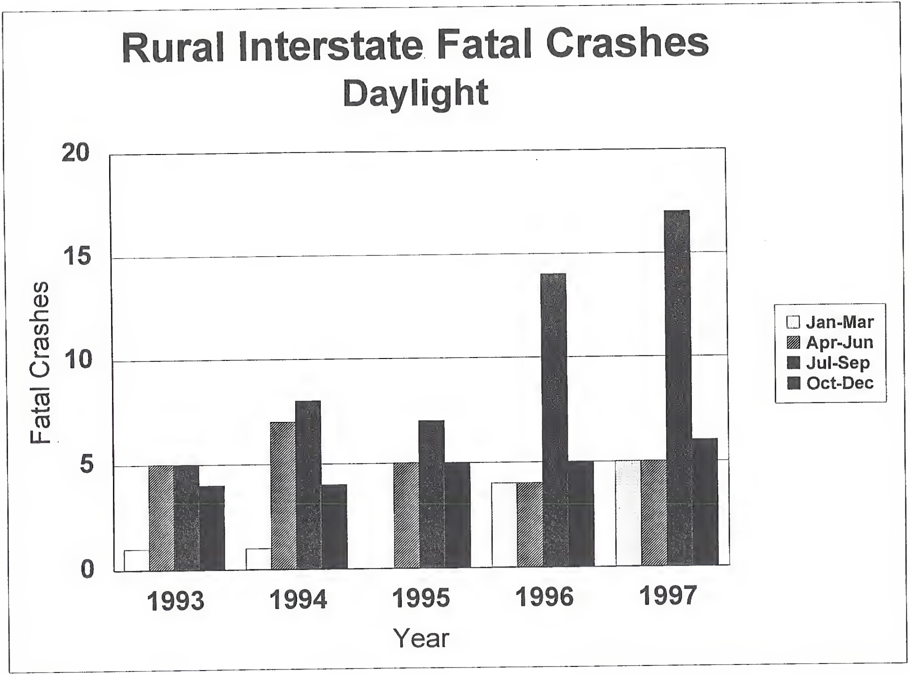

Rural Interstate Fatal Crashes
Daylight
20
15
10
5
0
Fatal Crashes
1993
1994
1995
1996
1997
Year
□ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 19

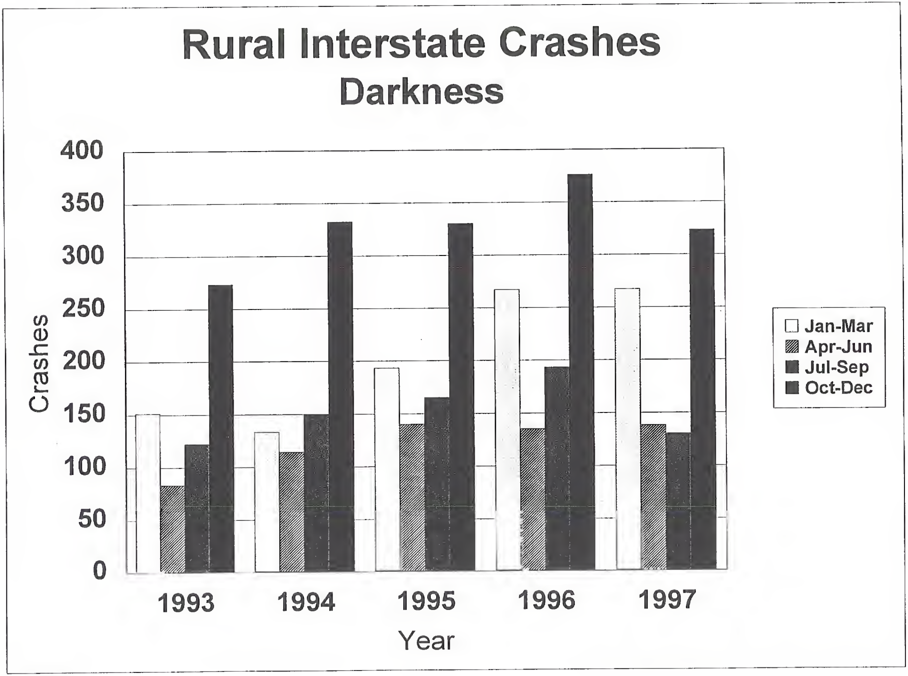

Rural Interstate Crashes
Darkness
400
350
300
250
200
150
100
50
0
Crashes
1993
1994
1995
1996
1997
Year
☐ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 20

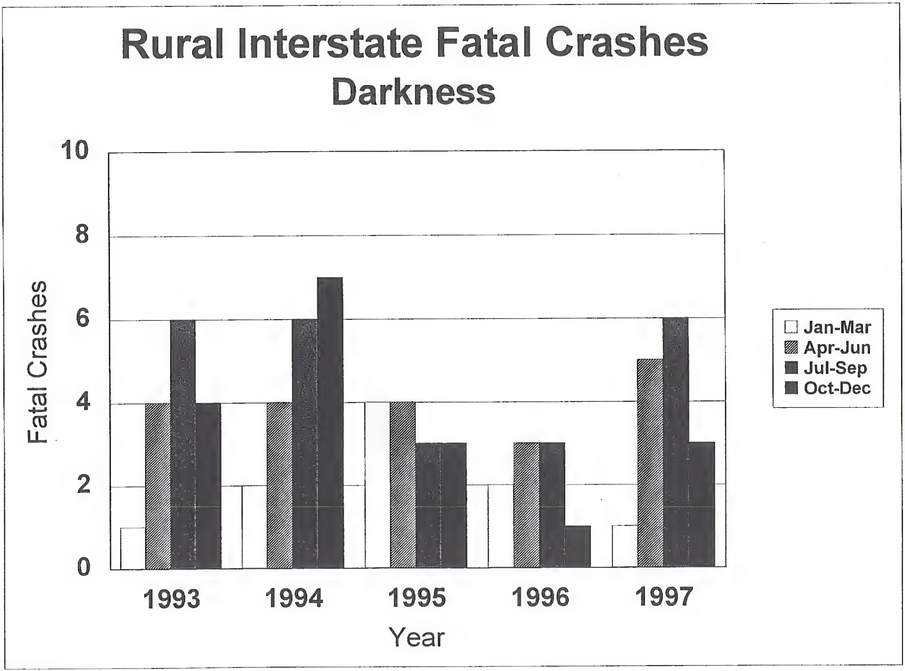
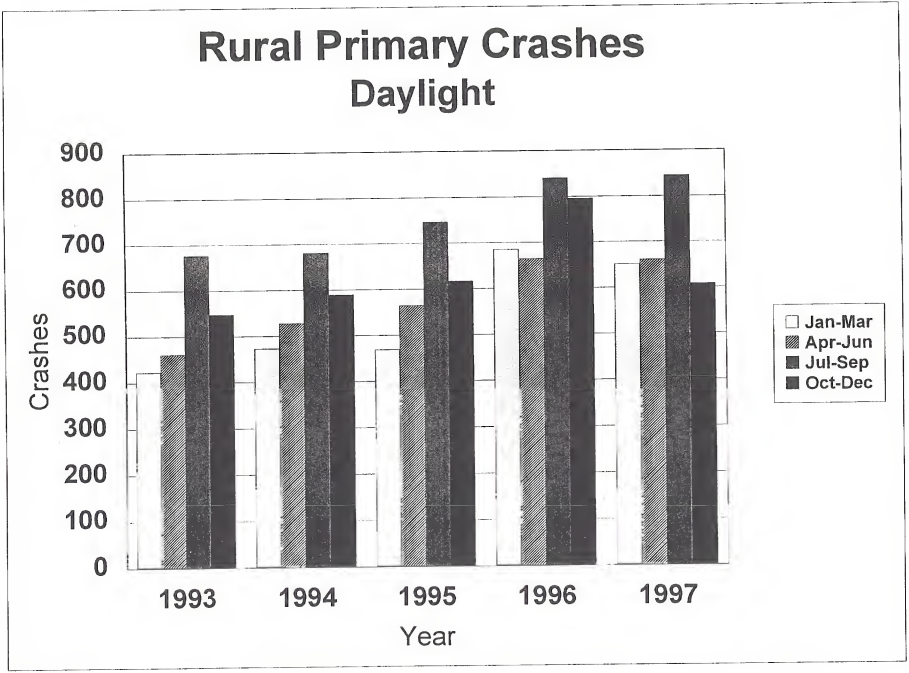

Rural Interstate Fatal Crashes
Darkness
10
8
6
4
2
0
Fatal Crashes
1993
1994
1995
1996
1997
Year
☐ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 21



Rural Primary Crashes
Daylight

FIGURE 22

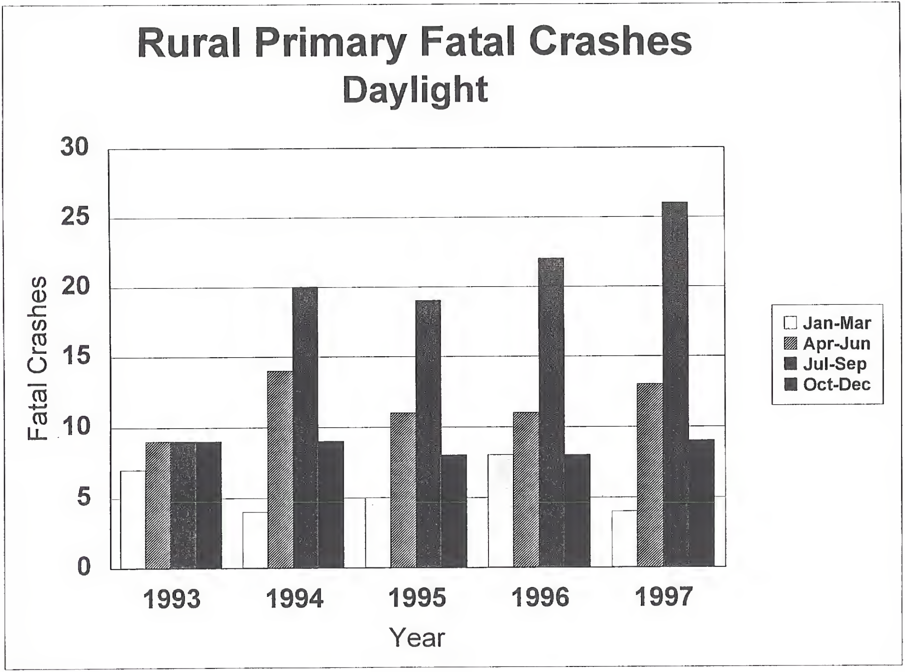
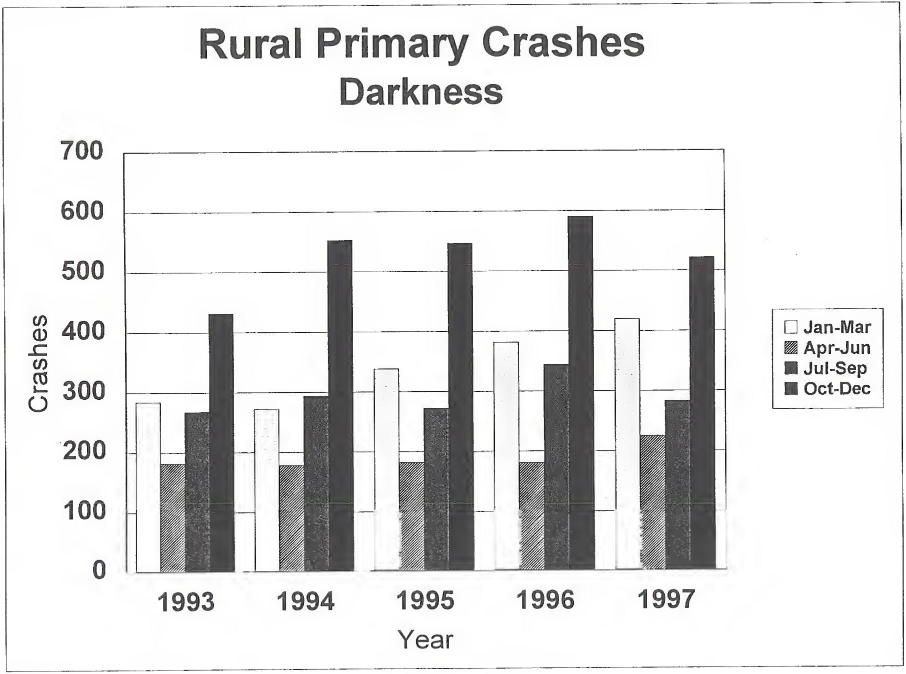

Rural Primary Fatal Crashes
Daylight
30
25
20
15
10
5
0
Fatal Crashes
1993
1994
1995
1996
1997
Year
□ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 23



Rural Primary Crashes
Darkness

FIGURE 24

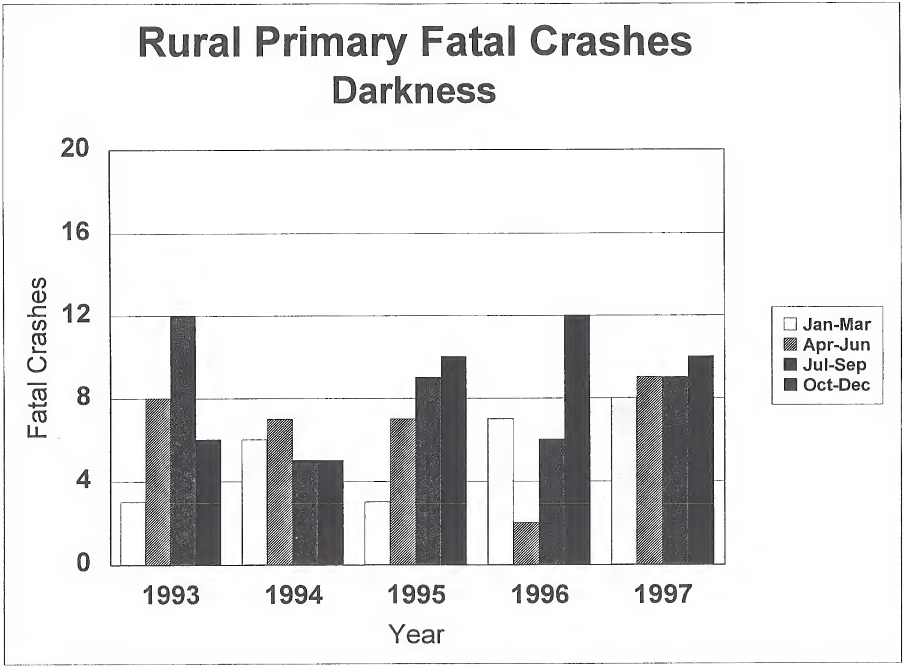

Rural Primary Fatal Crashes
Darkness
20
16
12
8
4
0
Fatal Crashes
1993
1994
1995
1996
1997
Year
☐ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 25

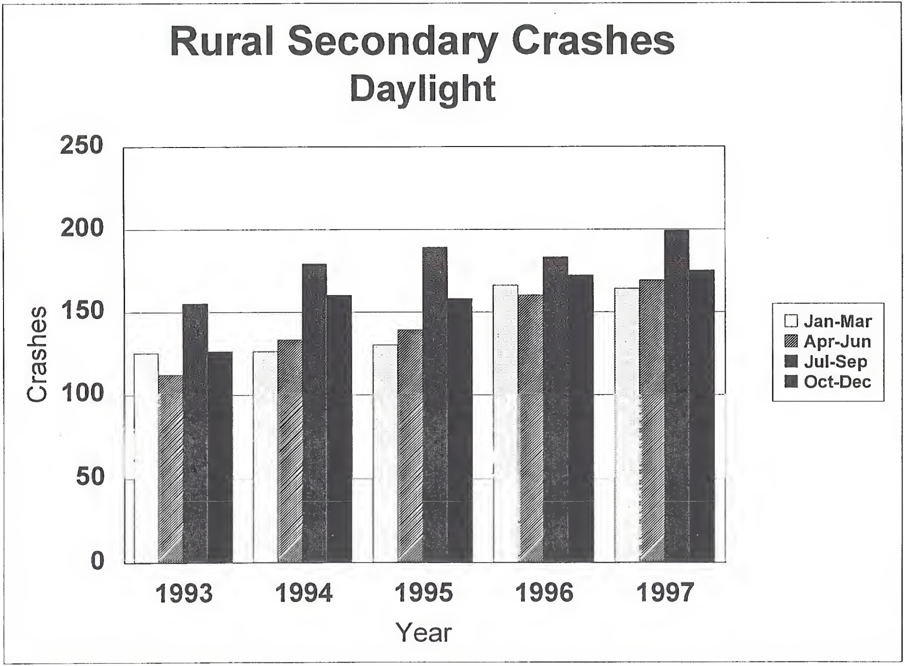

Rural Secondary Crashes
Daylight
250
200
150
100
50
0
Crashes
1993
1994
1995
1996
1997
Year
☐ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 26

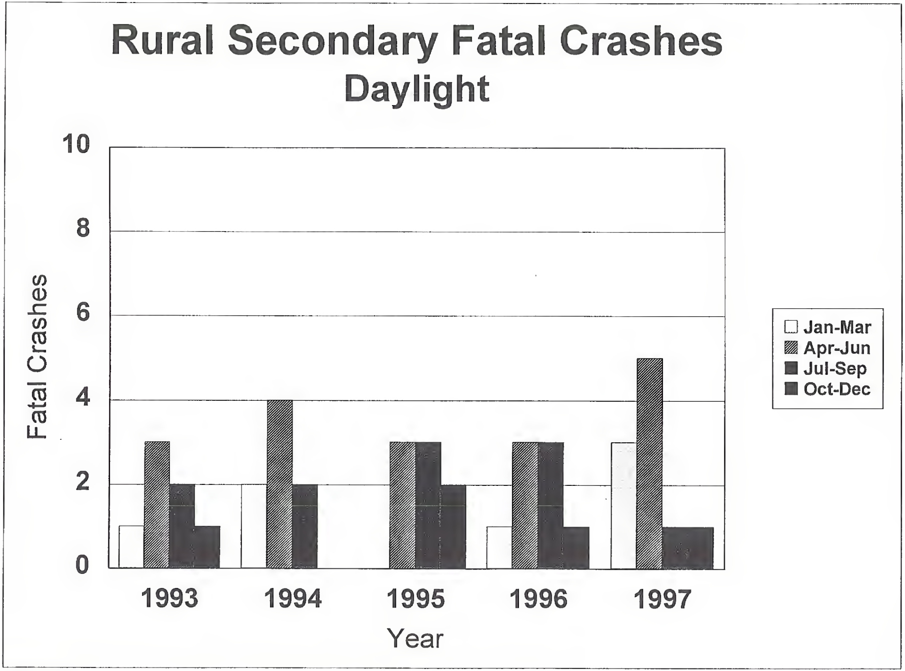

Rural Secondary Fatal Crashes
Daylight
10
8
6
4
2
0
Fatal Crashes
1993
1994
1995
1996
1997
Year
☐ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 27

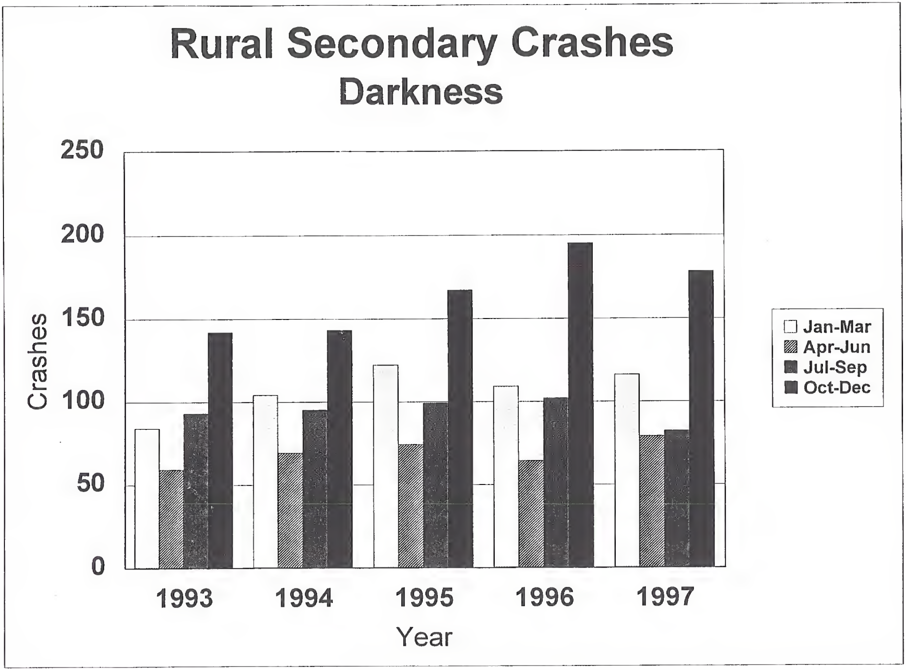

Rural Secondary Crashes
Darkness
250
200
150
100
50
0
Crashes
1993
1994
1995
1996
1997
Year
☐ Jan-Mar
▨ Apr-Jun
■ Jul-Sep
■ Oct-Dec

FIGURE 28

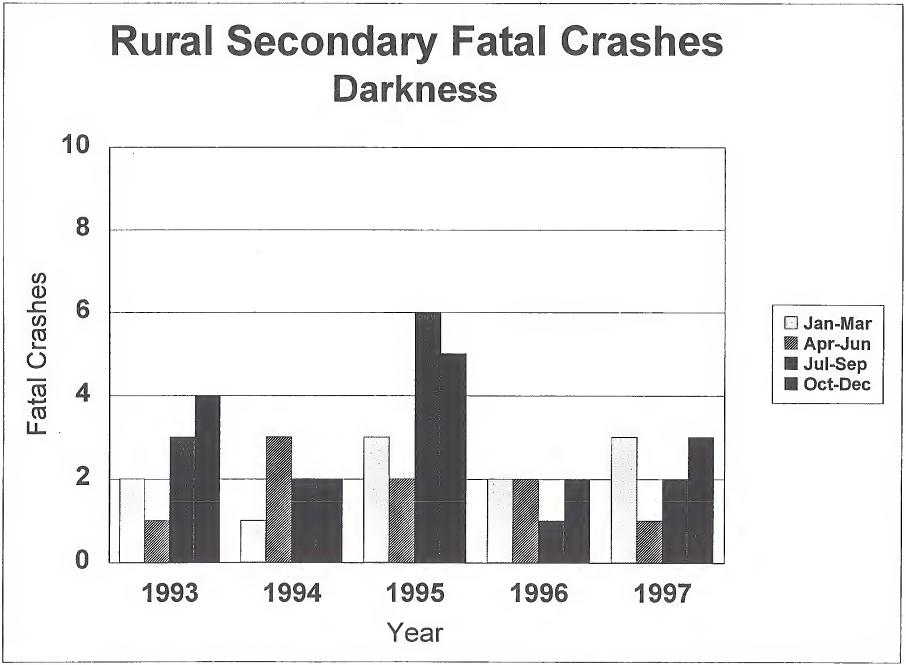

Rural Secondary Fatal Crashes
Darkness
10
8
6
4
2
0
Fatal Crashes
1993
1994
1995
1996
1997
Year
Jan-Mar
Apr-Jun
Jul-Sep
Oct-Dec

FIGURE 29

January - March

Daylight & Darkness

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes
1993	404	137	706	245	209	80	1941	651
1994	377	111	744	286	230	91	1999	726
1995	488	147	806	308	252	94	2271	792
1996	816	210	1065	371	275	80	3048	892
1997	699	245	1069	381	280	96	2851	954

April - June

Daylight & Darkness

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes
1993	307	124	641	305	171	80	1721	812
1994	369	148	703	330	202	101	1951	899
1995	420	148	744	337	213	97	2043	890
1996	446	160	843	371	224	117	2145	925
1997	521	183	884	403	248	137	2270	991

FIGURE 30

July - September

Daylight & Darkness

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes
1993	382	171	943	446	248	125	2372	1133
1994	417	164	973	462	274	124	2496	1140
1995	483	176	1018	430	288	161	2683	1163
1996	525	198	1184	501	285	148	2879	1259
1997	479	186	1126	521	281	134	2731	1257

October - December

Daylight & Darkness

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes	All Crashes	Fat+Inj Crashes
1993	618	205	977	371	268	121	2763	1018
1994	699	212	1140	419	303	115	3100	1066
1995	718	222	1162	419	325	130	3227	1116
1996	1001	276	1385	473	367	116	3763	1194
1997	672	206	1128	367	353	135	3129	1057

FIGURE 31

January - March
Daylight

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes
1993	253	1	422	7	125	1	1242	13
1994	244	1	472	4	126	2	1210	11
1995	295	0	468	5	130	0	1321	8
1996	549	4	684	8	166	1	1967	15
1997	432	5	650	4	164	3	1785	13

April - June
Daylight

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes
1993	224	5	460	9	112	3	1192	18
1994	255	7	526	14	133	4	1399	38
1995	280	5	563	11	139	3	1457	23
1996	311	4	663	11	160	3	1549	24
1997	383	5	660	13	169	5	1627	32

FIGURE 32

July - September

Daylight

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes
1993	260	5	676	9	155	2	1639	27
1994	268	8	680	20	179	2	1704	40
1995	318	7	746	19	189	3	1867	40
1996	332	14	840	22	183	3	1963	46
1997	349	17	844	26	199	1	1987	50

October - December

Daylight

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes
1993	345	4	546	9	126	1	1564	18
1994	367	4	588	9	160	0	1661	16
1995	388	5	616	8	158	2	1710	18
1996	625	5	795	8	172	1	2203	19
1997	349	6	607	9	175	1	1647	23

FIGURE 33

January - March

Darkness

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes
1993	151	1	284	3	84	2	699	7
1994	133	2	272	6	104	1	789	10
1995	193	4	338	3	122	3	950	11
1996	267	2	381	7	109	2	1081	12
1997	267	1	419	8	116	3	1066	14

April - June

Darkness

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes
1993	83	4	181	8	59	1	529	20
1994	114	4	177	7	69	3	552	17
1995	140	4	181	7	74	2	586	17
1996	135	3	180	2	64	2	596	11
1997	138	5	224	9	79	1	643	21

FIGURE 34

July - September

Darkness

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes
1993	122	6	267	12	93	3	733	27
1994	149	6	293	5	95	2	792	20
1995	165	3	272	9	99	6	816	20
1996	193	3	344	6	102	1	916	15
1997	130	6	282	9	82	2	744	27

October - December

Darkness

Year	Rural Interstate		Rural Primary		Rural Secondary		All Rural Roads	
	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes	All Crashes	Fatal Crashes
1993	273	4	431	6	142	4	1199	16
1994	332	7	552	5	143	2	1439	18
1995	330	3	546	10	167	5	1517	20
1996	376	1	590	12	195	2	1560	16
1997	323	3	521	10	178	3	1482	26

FIGURE 35

5. Environmental Information

It is known that the higher speeds will produce increases in NO_X emissions, and CO and VOC emissions, which adversely affect the air quality. This is a gradual effect, as shown by the historic graph of speed data. Note that there is a document entitled "The Effects of Raising Speed Limits on Motor Vehicle Emissions" (E. H. Pecham & Associates, Inc., December 1996), which used solely computer modeling with questionable assumptions (such as a jump of 10 mph in the speeds) stating, "some significant CO emission increases were described in several states with the largest increase being 48 percent in Montana." No supporting data has been found regarding the amounts of these pollutants.

In the worst scenarios, namely cold winter weather with an inversion, the traffic volumes are smaller than the average annual daily traffic. The winter speeds are also lower than during the spring and summer months; therefore, the air quality impacts are much less affected by "basic rule."

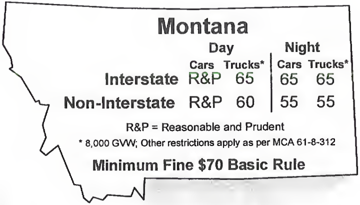
6. Experience from Neighboring States

All U.S. states except Montana have a basic rule and statutory maximum speed limits. Historically, states have gone from the basic rule to statutory maximum speed limits. Figure 30 shows the maximum statutory speed limits for rural roads in neighboring states.

States in the northwest of the U.S. that increased their statutory rural speed limits were contacted, and the following trends are summarized below:

- The 85 percentile speeds were already higher than the posted rural speed limits (see Figure 31).
- Overall, the 85 percentile speeds increased between 1 and 5 mph. In areas where the speed limit was not increased, average and 85 percentile speeds also increased in some areas.
- In rural areas, there appears to be more speed differentials between vehicles.
- No significant trend in accident experience was observed by each individual state, as the number of fatalities varies from year to year. It will be interesting to review the overall trends for all the states that increased their statutory rural speed limits.
- Public opinion was favorable to the raise of the statutory rural speed limits. Driver behavior has not been altered. With the higher posted speed limits, compliance levels have increased.
- Enforcement responses have been mixed: some officers liked the higher limits because it allowed them to concentrate on the flagrant violators, but others disliked the higher speed limits, citing less safety with the higher traveling speeds.

1997 Statutory Speed Limits



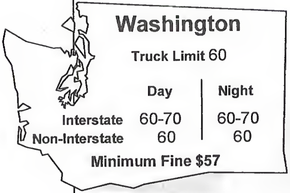
Montana

	Day		Night	
	Cars	Trucks*	Cars	Trucks*
Interstate	R&P	65	65	65
Non-Interstate	R&P	60	55	55

R&P = Reasonable and Prudent

* 8,000 GVW; Other restrictions apply as per MCA 61-8-312

Minimum Fine $70 Basic Rule

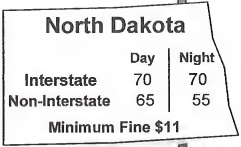


Washington

Truck Limit 60

	Day	Night
Interstate	60-70	60-70
Non-Interstate	60	60

Minimum Fine $57



North Dakota

	Day	Night
Interstate	70	70
Non-Interstate	65	55

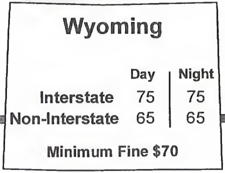
Minimum Fine $11

SPEED
LIMIT
??

Idaho

	Day	Night
Interstate	75	75
Non-Interstate	65	65

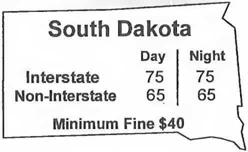
Minimum Fine $53



Wyoming

	Day	Night
Interstate	75	75
Non-Interstate	65	65

Minimum Fine $70

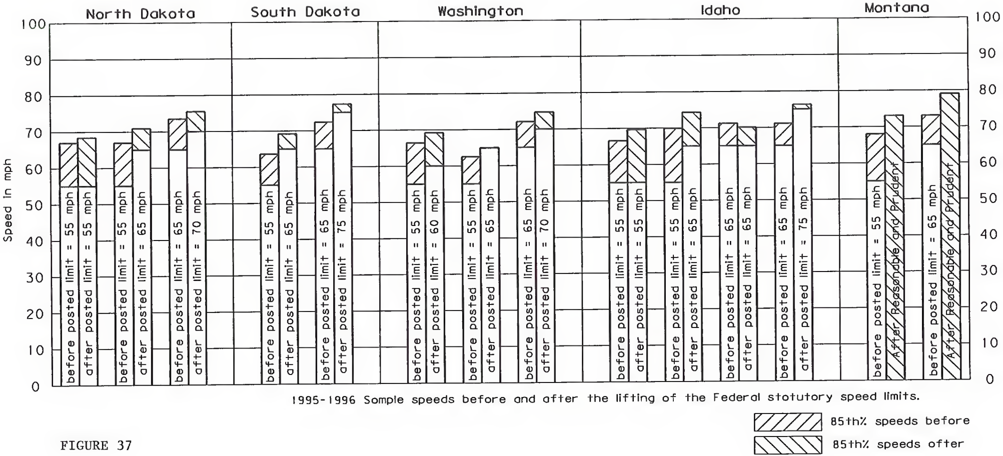


South Dakota

	Day	Night
Interstate	75	75
Non-Interstate	65	65

Minimum Fine $40

FIGURE 36



1995-1996 Sample speeds before and after the lifting of the Federal statutory speed limits.

FIGURE 37

7. Other General Comments

- "Basic rule" as the primary speed violation makes enforcement, prosecution and adjudication more complex. "Basic rule" promotes a negative view of enforcement and of the legal system, as speeding tickets are based on judgement calls by the officers and those involved in the judicial system.

  The Montana Highway Patrol supports a numerical speed limit. The 1997 Legislature rejected a proposed numerical speed limit sponsored by the Department of Justice.

- Numerous individuals have expressed concerns about "basic rule" daytime speed limit in Montana. The Great Falls Tribune poll found 64 percent in favor of a numerical speed limit (Independent Record, September 15, 1997). A more recent Lee Newspapers poll reports that 58 percent favor a daytime numerical speed limit (Missoulian, December 29, 1997).

8. Interim Recommendations

Based on the following main factors:

- observed speeds
- higher percentages of out-of-staters with extreme speeds
- traffic crash trends
- great variations in speeds
- public responses
- enforcement aspects
- legal requirements
- national trends

the Ad Hoc Committee reached the following interim recommendations:

The members unanimously support a maximum numerical daytime speed limit, stressing that drivers will at all times need to adjust their speeds to roadway, weather, vehicle, and traffic conditions.

With the present information available, such as speed data, adjacent state practices, accident data, and enforcement perspective, the Committee suggests the following maximum daytime numerical speed limits:

- 75 mph on the Interstate,
- 65 mph on paved rural roads, and
- 55 mph on gravel rural roads.

With these speed limits, the Committee suggests no speed differential between classes of vehicles.

The greatest differences of opinion between members revolved around the daytime versus nighttime speed limit issues. Some members favor posting speed limits based upon observed nighttime speeds, which are about 5 mph lower than the daytime speeds (Data Reference, 1996). The majority of the Committee supports keeping existing nighttime speed limits (65 mph on the Interstate and 55 mph on other roads) due to the visibility limitations of headlights and much higher risks at night. The Committee recommends that the existing nighttime speed limits remain unchanged.

The members unanimously agree that the basic rule speed limit is a universal speed law enacted in all traffic codes and absolutely has to remain as fundamental speed law.

Section 61-8-303 of the Montana Code Annotated states,

> Speed restrictions--basic rule. (1) A person operating or driving a vehicle of any character on a public highway of this state shall drive the vehicle in a careful and prudent manner and at a rate of speed not greater than is reasonable and proper under the conditions existing at the point of operation, taking into account the amount and character of traffic,

> condition of brakes, weight of vehicle, grade and width of highway, condition of surface, and freedom of obstruction to the view ahead. The person operating or driving the vehicle shall drive the vehicle so as not to unduly or unreasonable endanger the life, limb, property, or other rights of a person entitled to the use of the street or highway.

This statute allows officers and patrolmen to take appropriate enforcement action.

Because you are dealing with a multitude of factors (not just a fatality count), professional and public views will differ, and a plethora of bills could be introduced and debated. The Committee attempted to provide reasonable statutory numerical speed limits based on observed Montana travel speeds, accident data, public conversations and phone calls, inputs from various organizations, and other factors. The Committee recommends that several organizations such as AAA, AARP, Montana Motor Carrier Association, and others involved in transportation issues be kept abreast of the available data and suggested speed limits.

The Committee will continue to collect speed data through the spring and summer of 1998. With the speed data and accident statistics, the Committee proposes to reconvene in the late summer of 1998 to review these recommendations and refine the data presentation.

In conclusion, the Committee unanimously supports maximum numerical speed limits for three classes of roadways— Interstate, paved rural roads, and gravel rural roads—in addition to the basic rule.

Ad Hoc Committee on Speeds
Bulletin
January 1998

- The issue of speed limits is very complex involving many elements including observed speeds, crash frequency, injury severity, enforcement, prosecution, adjudication, public attitudes, and other factors.
- Between 1980 and 1996, the State of Montana experienced a 1 percent annual growth in population and a 2.5 percent annual growth in vehicle miles traveled.
- Speeds have increased. During the summers of 1996 and 1997, the 85th percentile speeds on rural Interstate and rural arterial roadways increased by about 5 mph compared to 1995 (up to 78 mph on the rural Interstates and 72 mph on the rural arterial roadways).
- Of the vehicles observed at speeds above 85 mph, 60 percent had out-of-state plates. Out-of-state drivers accounted for 75 percent of the vehicles above 95 mph (Montana Highway Patrol Survey, 1996).
- A crash at higher speeds will result in more severe injuries. According to the National Highway Traffic Safety Administration, chances of death or serious injury at impact double for every 10 mph over 50 mph a vehicle travels (NHTSA Fact Sheet, December 1995).
- The pace is a 10 mph spread over which the highest percentage of drivers travel. Between 1995 and 1996, the percentage of drivers in the pace decreased by about 15 percent on the rural Interstates (down to 41 percent) and about 5 percent on the rural arterial roadways (down to 47 percent).
- The greater the speed variances, the greater the risk of traffic crash involvement (Synthesis of Speed Zoning Practices, Federal Highway Administration, 1985).
- Between 1980 and 1989, Montana saw a trend of declining highway fatality rates (number of fatalities per 100 million vehicle miles) from 4.9 to 2.2. The fatality rate leveled off between 1990 and 1996, varying between 2.1 and 2.4. In 1997 the fatality rate increased dramatically. With a 1997 projected fatality rate of 2.8, the State of Montana will have one of the highest fatality rates in the nation.
- Between 1987 and 1995 (9 years) the number of rural crashes recorded by the Montana Highway Patrol increased 3.5 percent annually. In 1996 there was a 20% increase in rural accidents from the year before. However, severe winter conditions contributed largely to this increase.

- Studies have not shown a clear correlation between speeds and crashes. Nevertheless, in the early years of the imposed 55 mph speed limit, following the oil embargo of 1973, experts agreed that 3,000 to 5,000 lives were saved annually in the U.S. (*55: A Decade of Experience*, Transportation Research Board, 1984). In Montana between 1971 and 1973, there were 1046 fatalities; between 1975 and 1977, there were 918 fatalities.

- The 2,336 fatalities that occurred in 1990 on rural Interstates in those 38 states that increased their speed limits from 55 mph to 65 mph in 1987 is 30 percent greater than might have been expected based on historical trends (Effects of the 65 mph Speed Limit Through 1990 - Report to Congress, National Highway Traffic Safety Administration, 1992). In Montana no significant changes in rural fatalities were observed. This was due in part to the fact that from 1982 to 1986 rural speeds in Montana were steadily increasing, so the official speed limit increase in 1987 had little effect on the average speeds in the state. Between 1984 and 1986, there were 97 fatal accidents on Montana rural Interstates and 102 between 1988 and 1990.

- "Basic rule" as the primary speed violation makes enforcement, prosecution and adjudication more complex. "Basic rule" promotes a negative view of enforcement and of the legal system, as speeding tickets are based on judgement calls by the officers and those involved in the judicial system.

- All states except Montana have statutory numerical maximum speed limits. For example, Idaho, Wyoming and South Dakota have a day/night limit of 75 mph on the Interstate and 65 mph for non-Interstate. North Dakota has a speed limit of 70 mph on the Interstate and a 65 mph daytime (55 mph nighttime) on two-lane roadways.

- The Great Falls Tribune poll found 64 percent in favor of a numerical speed limit (Independent Record, September 15, 1997). A more recent Lee Newspapers poll reports that 58 percent favor a daytime numerical speed limit (Missoulian, December 29, 1997).

MONTANA'S STATUTORY RURAL SPEED LIMIT LAWS

			Since 12/08/95	Proposed
Passenger Cars/Trucks under 8,000 lbs.				
	Interstate	Daytime	Basic Rule	75
		Nighttime	65	65
	All other Paved Roads	Daytime	Basic Rule	65
		Nighttime	55	55
	Gravel Roads	Day/Night	Basic Rule	55
Trucks over 8,000 lbs. *				
	Interstate	Daytime	65	75
		Nighttime	65	65
	All other Paved Roads	Daytime	60	65
		Nighttime	55	55
	Gravel Roads	Day/Night	55	55

* Exceptions governed by Motor Carrier Services.

"Basic Rule" law remains in effect.

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